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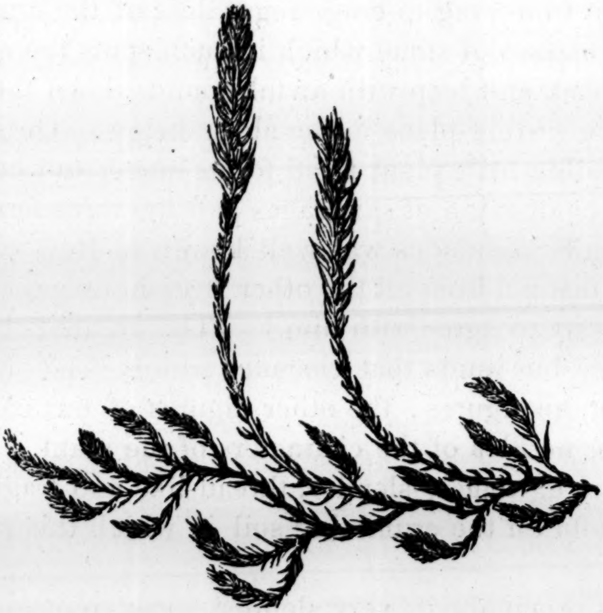
ART. XXV.—*A History of the British Lycopodia, and allied Genera.*

By EDWARD NEWMAN. (Continued from page 51).



THE PRICKLY CLUB-MOSS.

LYCOPODIUM SELAGINOIDES of Authors.

LOCALITIES.

England. Cumberland, Durham, Yorkshire, Lancashire and Westmoreland, in numerous localities; *Dr. Balfour*, *Mr. Simpson*, *Miss Beever* and others. Derbyshire; Kinder Scout, *Mr. O. Sims*, (T. & D).

Wales. Caernarvonshire; Snowdon, Glyder Vawr, &c., *Mr. Janson*. Merionethshire; Cader Idris. Montgomeryshire; Plinlymmon.

Scotland. Falls of the Clyde and shores of Loch Long, *Mr. Kippist*. Loch Brandy, Auchtermore, Sidlaw Hills, Ben-na-Bourde, Braemar, near Brechin, Clova, Ochils, near Dollar, and near Killin; *Drs. Greville* and *Balfour*, *Mr. Campbell*, *Mr. Graham* and *Mr. W. Gardiner, jun.*

Ireland. Sandy ravines near the sea; counties Donegal, Londonderry, Dublin, Kerry, Wicklow, &c.; *Messrs. Mackay* and *Moore*. Near Belfast, *Mr. Woods*.

THIS species, which, without much reason, has obtained the name of the Prickly Club-Moss, is widely distributed over the hilly districts of the North of England, Wales, Scotland and Ireland. I have found it in every part of the Snowdon range that I have visited; also on Cader Idris, in the Western Highlands of Scotland, and on Errigal and other elevations in the County Donegal: and my correspondents have kindly supplied me with such a host of habitats, that I am compelled to limit the number given, on account of the space which the whole would occupy. It delights in the vicinity of those little rills so common in all our hilly counties, and whose course is so often marked by a sinuous line of vivid green, delighting the heart of the botanist, and leading him on from crag to crag, regardless of the crumbling debris and detached masses of stone which in such spots too often give way beneath his tread, and leap with awful bounds down the hill-side, till they find a new resting-place in the abyss below. On such localities has this interesting little plant fixed for its home, and here it may ever be found, the companion of saxifrages and the rarer ferns.

Lycopodium Selaginoides was well known to Ray, who considered it generically distinct from all the other British Lycopodia,* in which Dillenius appears to agree with him.† The figure ‡ by Dillenius is not inaccurate, but wants that elegance which is so characteristic of the majority of his figures: the other figures of our earlier botanists convey little or no idea of the characters of the plant.

The roots are extremely slender, thread-like and fragile; they take but a slight hold on the crumbling soil in which this species is usually found.

The stem is procumbent, very slender, weak, repeatedly branched, the branches short and somewhat sinuous: the seed-bearing spikes are thrown up at intervals, generally two or three on each plant; they are subclavate and considerably thicker than the prostrate stem.

The entire plant is clothed with lanceolate leaves, which are serrated and almost jagged at their edges; those on the procumbent slender portions of the stem are shorter, narrower and somewhat scattered, while those on the spike, more properly termed bracts, are every way larger and much broader at the base.

The thecæ are sessile at the base of the bracts, pale yellow and tolerably round; the upper ones contain the usual minute pollen-like particles which have already been spoken of as the seeds of Lycopodium clavatum, used under the name of '*plaun*' for the production of flashes of light; the lower ones contain larger grains, equal in size to the seed of many phænogamous plants. This double mode of fructification has excited the admiration of botanists from the earliest period, and given rise to a variety of conjectures; some have contended that both the large and small grains are productive seeds, others that the smaller bodies are true seeds, the large ones gemmæ or buds; others that the smaller are abortive and the larger productive seeds; and others again that the larger ones only are seed, the smaller ones being grains of pollen.

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* Synopsis, 106. † Hist. Musc. 460. ‡ Id. tab. 68.

Wahlenberg* has given a very clear and accurate description of this twofold fructification. He observes that the capsules containing the graniform seeds are subquadrilocular, in reality bivalve, but sometimes dehiscing in four directions; they occupy the lower portion of the spike, and are larger and more protuberant than those above. The seeds are always four in number, and are so squeezed and pressed together that three triangular areas are produced at the base of each; in this particular they so much resemble the seeds of Isoetes lacustris, that, agreeing as the plants do in so many other respects, it is hardly possible to doubt their being closely related. The seeds are nearly as large as those of the poppy, and invariably fall from the capsule entire and are scattered upon the earth, a circumstance quite conclusive against their being anthers, as suggested by Hedwig. Capsules filled with the powdery seed common to the other Lycopodia and the bivalved ferns, occur in the axils of the upper bracts; this powder consists of somewhat hirsute granules, four of which are combined in a tetrahedron, exactly like the seeds in the lower capsules, exhibiting a very obvious analogy between the two kinds of seed, and leaving no doubt of their having the same origin. If therefore the powder emitted from the capsules of Botrychium Lunaria be true seed, it follows that the powder produced by the capsules of Lycopodium Selaginoides is seed also. It cannot be male pollen, its appearance being precisely synchronous with that of the mature seeds. The spike itself is annual, decaying immediately after it has fruited in July or the beginning of August, and the next year a new spike springs from some other part of the prostrate stem, on no part of which can a trace of future capsules be found. From these circumstances it seems probable that the only difference between the granules is that of size, each being to be regarded as true seed; a somewhat analogous discrepancy occurs in the varied form of the seeds of spinach. EDWARD NEWMAN.

(To be continued).

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* Flora Lapponica, 292.

Art. XXVI. — *Localities of some of the rarer Plants found in the vicinity of Bristol.* By Thos. B. Flower, Esq., F.L.S.

Few places perhaps present a more fruitful field for botanical research than the vicinity of Bristol; and thinking a notice of some of the more interesting plants may be acceptable, I have drawn up the following list of such as I have had the pleasure of detecting during numerous botanical excursions in that neighbourhood.

Ranunculus parviflorus. Sparingly in the lane leading to Baptist Mills; and on St. Vincent's Rocks.

——— *circinatus.* Frequent in many places about Bristol and Stapleton.

Helleborus viridis. This plant is by no means frequent in the neighbourhood. I have found it sparingly in the Roman encampment in Leigh woods.

——— *fœtidus.* Woods near Stoke, and in woods between Braston and Backwell.

Aquilegia vulgaris. On the Down near Cook's Folly, also in Leigh woods.

Glaucium luteum. Frequent in many places about Portishead.

Fumaria capreolata. Stapleton and Crew's Hole in plenty.

Barbarea præcox. About Long Ashton, Bourton and Backwell.

Arabis stricta. The numerous stations given for this rare plant have been nearly destroyed within the last two or three years; rewards having been offered for it by an individual, in order to render it scarce.

Cardamine impatiens. Frequent in many places about Stapleton Mills.

Glyce maritima. On rocks about Clevedon, but by no means common.

Hutchinsia petræa. St. Vincent's Rocks in plenty, and also at Choram's Chair, near Blaize Castle.

Hesperis matronalis. Long Ashton, but by no means frequent.

Lepidium ruderale. St. Vincent's Rocks; and plentiful in many places about Bristol.

Diplotaxis tenuifolia. About Horfield and St. Philip's, sparingly.

——— *muralis.* Frequent about St. Vincent's Rocks, and in many places about Bristol.

Cerastium tetrandrum. Frequent on the Downs.

Saponaria officinalis. Frequent about Crew's Hole and Hanham.

Androsæmum officinale. In the woods under Cook's Folly, and Leigh woods, sparingly.

Hypericum montanum. St. Vincent's Rocks.

——— *dubium.* St. Vincent's Rocks and Leigh woods.

——— *pulchrum.* On the Downs near Clifton turnpike, in plenty.

Geranium sanguineum. Plentiful on St. Vincent's Rocks and in Leigh woods.

Erodium moschatum. St. Vincent's Rocks; also about Peupole Point in plenty.

——— *maritimum.* Leigh down, also at Peupole Point.

Montia fontana. Brandon Hill near Bristol, and also at Stapleton.

Sedum Telephium. St. Vincent's Rocks.

——— *dasyphyllum.* On walls about Belle Vue, Clifton; and also at Bedminster.

——— *album.* "About Frenchay," Mr. Rootsey.

——— *rupestre.* St. Vincent's Rocks, but no doubt introduced originally.

Ulex nanus. In plenty on the downs. This is the plant observed by some of the members of the British Association during their meeting in this city, and suspected by them to be Ulex provincialis, which is a small, erect, glabrous, much-branched plant, and, as I have been informed, quite distinct from the present species.

Lathyrus Aphaca. Corn-fields near Westbury, in plenty; and at Bedminster.

—— *Nissolia.* In great plenty below Shirehampton, in the marshes. "In the lane leading to St. Anne's wood," Mr. Rootsey.

—— *sylvestris.* In plenty in the wood by the side of the Avon, near Shirehampton.

Vicia bithynica. Plentiful in the last locality.

Hippocrepis comosa. In the road leading to the Giant's Hole on St. Vincent's Rocks, and behind the old hot-well house.

Trifolium subterraneum. In plenty on Brandon Hill near Bristol.

—— *medium.* In the woods below Cook's Folly.

—— *scabrum.* St. Vincent's Rocks.

—— *maritimum.* In the large meadow below Cook's Folly, in plenty.

—— *fragiferum.* By the side of the river Avon in many places; also in the meadows below Shirehampton in profusion.

—— *resupinatum.* Meadows below Shirehampton, Mr. Drummond. This plant is, I fear, entirely lost by drainage and cultivation. In the summer of 1838 I was unable to detect it; and again in July, 1839, when in company with C. C. Babington, Esq.

Lotus tenuis.

Medicago maculata. By the side of the Avon near Cook's Folly; also near Kingroad.

Ornithopus perpusillus. Brandon Hill, plentifully.

Cerasus Padus. St. Anne's Wood.

Potentilla verna. St. Vincent's Rocks, plentifully.

Pyrus pinnatifida. Leigh woods.

—— *Aria* and *torminalis.* St. Vincent's Rocks.

Geum rivale. Near Nailsea in plenty.

Epilobium roseum. About Crew's Hole and Hanham, sparingly.

Œnanthe fistulosa. Ditches below Shirehampton, in the lane leading to Kingroad.

—— *pimpinelloides.* By the river side under Cook's Folly.

Bupleurum tenuissimum. By the river Avon near Cook's Folly, and at Sea Mills.

Trinia glaberrima. St. Vincent's Rocks, also on the rocks near Cook's Folly.

Petroselinum segetum. Sea Mills.

Smyrnium Olusatrum. St. Vincent's Rocks.

Galium tricorne. Corn-fields near Horfield.

Rubia peregrina. Frequent in this neighbourhood, especially about St. Vincent's Rocks.

Dipsacus pilosus. Leigh woods.

Sambucus Ebulus. Near Sea Mills.

Inula Helenium. Portishead.

Artemisia maritima. Frequent about Kingroad.

Achillæa Ptarmica. Bedminster, sparingly.

Bidens cernua. Stapleton Mills, in company with B. tripartita; also at Hanham.

Orchis pyramidalis. Frequent about Cook's Folly woods.

Ophrys muscifera. Sparingly in Leigh woods. The station given for it in the 'New Botanist's Guide' has long since been destroyed.

—— *apifera.* In the greatest abundance about the rock house near Cook's Folly.

Neottia Nidus-avis. Leigh woods.

Neottia spiralis. On the down opposite the Zoological Gardens, in plenty.
Epipactis latifolia. Leigh woods, and St. Anne's wood, near Brislington.
Habenaria chlorantha. Frequent in Leigh woods, also in the woods below Cook's Folly. I am not aware that H. bifolia has been found in this neighbourhood.
Galanthus nivalis, Sea Mills; also near St. Anne's wood.
Convallaria Polygonatum. Leigh woods, in company with C. majalis.
Fritillaria Meleagris. In meadows at Bitton, but seldom flowering.
Asparagus officinalis. Opposite Cook's Folly, on the Leigh wood side of the river.
Myosotis collina. Frequent on the downs.
——— *cæspitosa.* Watery places near Kingroad.
Gentiana Amarella. On the Leigh wood side of the river Avon.
Glaux maritima. Frequent between the hot wells and Shirehampton, on both sides of the river.
Veronica hybrida. St. Vincent's Rocks in plenty.
——— *montana.* Frequent in St. Anne's wood near Brislington.
——— *Buxbaumii.* In cultivated places about Bristol, but sparingly.
Orobanche major. In the woods below Cook's Folly.
Lathræa squamaria. Leigh woods, but sparingly.
Lamium maculatum. Naturalized at the back of the garden wall at Redland Court.
Quercus sessiliflora. Leigh woods.
Hydrocharis Morsus-ranæ. Plentiful in the ditches at Kingroad.
Allium ———? Sparingly by the side of the river Avon near Sea Mills.
Gagea lutea. St. Anne's wood, sparingly.
Ornithogalum pyrenaicum. St. Anne's wood; also about Hanham, by the river side.
Butomus umbellatus. Crew's hole.
Carex digitata. Leigh woods, sparingly.
—— *clandestina.* St. Vincent's Rocks; also on the rocks on the Leigh side of the river.
Rottböllia incurvata. Frequent by the side of the Avon under Cook's Folly; also at Sea Mills.
Hordeum maritimum. Frequent about Kingroad.
Poa maritima, procumbens and *distans.* Frequent about Rownham Ferry.
Bromus diandrus. Plentiful in many places between the hot wells and Sea Mills.
——— *secalinus.* Below Cook's Folly.
Grammitis Ceterach. On old walls in the neighbourhood.
Blechnum boreale. Frequent in Leigh woods.
Polypodium Dryopteris. Leigh woods, sparingly.
Cystopteris fragilis. Frequent about Dundry.
Aspidium aculeatum. Leigh woods; also at St. Anne's wood and at Hanham.
——— *lobatum.* Leigh woods, and woods about Shirehampton.
——— *Oreopteris.* Sparingly in Leigh woods.
——— *dilatatum.* Leigh woods, Shirehampton and Hanham.
Asplenium marinum. Portishead and Clevedon.
——— *Adiantum-nigrum.* Frequent on the walls in the neighbourhood.
——— *Filix-fœmina.* Leigh woods.
Ophioglossum vulgatum. Leigh woods.

THOS. B. FLOWER.

Art. XXVII.—*Analytical Notice of the 'Transactions of the Linnean Society of London,' vol.* xviii. *pt.* 4. *August,* 1841.

(Continued from p. 60).

Art. XXXII. — *Notice of a Plant which produces perfect Seeds without any apparent Action of Pollen.* By Mr. John Smith, A.L.S.

This curious and interesting member of the Euphorbiaceæ, to which Mr. Smith has assigned the name of *Cœlebogyne ilicifolia*, is a native of Moreton Bay, on the east coast of New Holland, whence three plants were sent to the Royal Botanic Garden at Kew, in 1829, by Mr. Allan Cunningham, who was unable to determine the natural order to which it belonged, not having seen either flowers or fruit. Mr. Brown also "collected specimens of this plant, but equally without fructification, at Keppel Bay, on the same coast, in 1802." Under cultivation the plants retain their *scrubby* habit, and have much the appearance of dwarf holly-bushes.

"Shortly after their introduction the plants produced female flowers, an examination of which proved the genus to be Euphorbiaceous, and allied to Sapium: but although I have watched them carefully from year to year, I have been unsuccessful in detecting anything like male flowers or pollen bearing organs; and I should naturally have passed them over as diœcious, and considered the three introduced individuals as females, had not my attention been particularly directed to them in consequence of each of them producing fruit and perfect seeds, from which I succeeded in raising young plants. This, too, was not the result of one year, but of several successive years' sowing: the plant now exhibited to the Society was raised last year, and the similarity of the offspring to the parent would alone lead me to conclude that it is not the result of cross-fecundation. The circumstances connected with the situation of the plant in the garden, and the absence of allied male plants, as also the peculiarity of the natural order to which it belongs, which do not readily hybridize, led me to believe that no foreign pollen had fecundated the ovarium; and on watching the progress of the stigma all doubts were removed. * * I have already said that the stigma consists of three connate lobes, which are more or less notched; at first the lobes are depressed on the ovarium, but as the ovarium swells they lose their reddish colour and become inclined upwards, retaining their succulent and healthy appearance till dried up by the ripening of the fruit: the surface has a granular appearance, derived from minute papillæ, and showing no signs of having been acted on by pollen. Spiral vessels occur in the thick part of the base of the stigma, and are doubtless connected with the vascular tissue of the ovarium. I have seen nothing like pollen-tubes. The stigmatic surface remaining so long unchanged affords a strong proof of its not having been acted upon by pollen, it being well known that the stigma of many plants remains for a long time unaltered, but soon after the application of pollen a change takes place, as is readily seen in Orchideæ.

"On considering the circumstances above noticed, and in particular the absence of male flowers of the plant itself or of others related to it, and the fact of the stigma remaining so long unchanged, and not exhibiting the symptoms usually seen in stigmas after having been acted upon by pollen, I can arrive,—especially after the length of time during which I have watched it,—at no other conclusion than that pollen is not essential to the perfecting its seeds; but if an external agent be necessary, and really act upon the stigma, I am unable to say what that agent is or how it acts. I might mention a view which I at one time entertained, namely, that the viscid fluid which issues from the glands situated below the ovarium might produce some effect by exciting the action of the pistillum; and this view received some support from finding the young stigma often smeared with the fluid. That there is some specific action on the ovula I think there can be no doubt; for, as in most other plants, some of the ovula are frequently abortive.

"My object being merely to state the facts observed respecting this plant, without the intention of advancing any opinion on the various theories of vegetable impregnation, I shall conclude by merely observing, that the absence of pollen in this instance is irreconcileable with the theory that every grain of pollen furnishes a germ, and that the ovulum is merely a matrix to receive and nourish it till it becomes a perfect seed."

(To be continued).

ART. XXVIII. — *Notice of 'A History of British Forest Trees, Indigenous and Introduced.'* By PRIDEAUX JOHN SELBY, F.L.S., M.W.S., &c. London: John Van Voorst. Parts 2 and 3. August and September, 1841.

THE second part of this elegant work contains portraits and descriptions of four trees;—the wild cherry, the whitethorn, the mountain ash and the common ash. Mr. Selby considers the cherry well worth cultivating as an ornamental tree, principally on account of the profusion of its flowers at an early period of the year, and the rich purple tints of its foliage in the autumn. The whitethorn, or quickset as we term it, is more apt to be regarded as the staple commodity of our trim English hedges than as a forest tree; still, Mr. Selby has selected so noble a specimen as an illustration of the species, that it reminds us of a figure we have somewhere seen of the gigantic 'chestnut of a hundred horse' long celebrated by travellers. The rowan, that familiar tree, is represented more in accordance with our ideas of its magnitude.

"The mountain ash grows in almost every district of Britain, but its favourite habitats and where it reaches its greatest size and most imposing appearance, are mountainous declivities, or in those deep dells in mountainous and hilly districts, where the earth is loose and free, and kept in that moist state most congenial to its growth, by the percolation of the rain and dews, or of springs which issue from the disruptured rocks. In such localities it frequently becomes a tree of the second or third magnitude, with a form generally devoid of that stiffness and round-topped outline it usually assumes under cultivation, or as seen in dressed and garden grounds. In old trees situated in such wild scenery, the branches lose their formal appearance, and as they become elongated and unable to sustain the annually increasing weight of the foliage, gradually yield and take a partially pendant direction. Such are many of those groups which claimed the approving notice of Gilpin, and which we have oft admired in the wild and enchanting scenery of the Scottish Highlands; and such were the old and venerable trees in our own romantic dene at Twizell, before the destructive storms of the last few winters overthrew and laid low the leafy honours of the largest and finest among them. In addition to a light and graceful foliage, charming us with its fresh and lively tint, the mountain ash, in spring, bears conspicuous and sweet-smelling corymbs of cream-white flowers, and as the autumn advances, its berries, of the richest coral hue, give it a singularly pleasing and beautiful effect;—

"How clung the Rowan to the rock
And through the foliage showed his head
With narrow leaves and berries red;—"

and add to the contrast produced by its mixture with the deep green of the pine, and the tufted and waving foliage of the spiry birch, two of the usual and most predominating trees in those localities in which it most delights. It is not, however, to be despised, or its cultivation neglected, in scenery of a tamer and less stirring description, and, loaded with its rich and glowing fruit, it is one of the greatest ornaments to the pleasure gardens of suburban villas." p. 77.

The third part contains the English elm, the cork-barked elm, the wych elm, the smooth-leaved wych elm, and the common walnut. A figure of some noble specimen of each tree accompanies the description, which is always very complete, giving the history, appearance, mode of culture, uses, and every other particular that can interest the enquirer.

The work abounds in useful hints to planters, and practical observations on the effect produced by the propinquity of other trees. Of the ash the author observes it is best planted without admixture of other trees, as from its mode of growth it proves one of the worst of neighbours in mixed plantations, particularly to the oak, which it lashes and destroys by its heavy and easily swayed head. On the other hand the cherry is strongly recommended to the planter's notice, both on account of its value for underwood and as a timber tree, and particularly as being—

"one of the few trees that can be advantageously planted as a nurse or subsidiary to the oak, as it is neither apt to overtop or crush its neighbours by a rampant growth or wide spreading head like the wych elm or the ash, or to hurt and injure them in winds and storms, as is constantly the case where trees with a more flexible or easily agitated spray are introduced. It has also this further recommendation as a nurse to the oak, that, although a quick growing plant while young, and fulfilling the duty of a protector, it naturally yields to the tree it has fostered after the first twenty or thirty years of its growth, and is afterwards content to vegetate beneath its shade, rendering it even as a mere neighbour the least dangerous to oaks in cases of neglect, or where regular thinning has not been duly administered."—p. 61.

We are gratified in observing that the words "Indigenous and Introduced" have been inserted in the title on the wrappers of the parts before us, in accordance with a suggestion in our notice of the first part of this work.

Art. XXIX.— *Varieties.*

34. *Polypodium calcareum and Dryopteris.* I consider these plants to be quite distinct, the former having truly the erect habit which Smith describes; I believe also that the pubescence is constantly present in P. calcareum. The two species are generally found in different habitats, but in a wood on the side of Ingleborough, as you go to Weathercote, they are found in company. I have cultivated them side by side for many years, with their respective characters unchanged. — *W. Wilson ;* Warrington, July* 5, 1841.

35. *Woodsia Ilvensis and hyperborea.* I have never had the slightest difficulty in distinguishing these plants, the first by its ovate, the second by its oblong pinnæ. Woodsia Ilvensis was found by me many years ago near Llyn y Cwn, and by no one else in modern times, but those whom I have directed to the spot. I believe however it is the "Filix Alpina, Pedicularis rubræ foliis subtus villosis" of Ray (Syn. 118), although I must confess I have only seen Woodsia hyperborea on Clogwyn y Garnedd, the habitat recorded by Ray.—*Id. July* 5, 1841. In a short visit to the Snowdon district last month, I found a few plants of W. Ilvensis in the old locality, but they appeared weak and dwindling for want of sufficient earth.—*Id. September*, 1841.

36. *Botanical Excursion to Teesdale.* Having arrived at Middleton, in Teesdale, Durham, a little before 12 o'clock on the 21st of August, 1838, after taking some refreshment I set off for Langdon beck, cheered by sun-gleams, which had suddenly succeeded heavy clouds and rain. I reached my destination at 2, and secured, as a guide, the landlord of the unpretending little public-house, on whose pony we crossed the deeply swollen beck, our first obstacle in progressing to Widdy-bank and Caldron Snout, (incorrectly given Spout by Francis and Hooker). And here allow me to hint to botanists who may visit this place, in search of plants the locality of which is simply given as Widdy-bank, to take a guide as they desire success in their search, since Widdy-bank is a tract of country extending about three miles square, and thus a very indistinct description for the locality of a small plant. We had not proceeded far when we found Bartsia alpina in great abundance, principally either young plants or in seed; I was however fortunate enough to secure three in flower. A little farther on, and extending over a large space, was Tofieldia palustris in seed. We then saw many plants of Gentiana verna, not far from the side of the river; and, mounting higher ground, discovered one tuft of Carex pulicaris. The remainder of our way, until we reached the Snout, was unproductive. There, growing out of the crevices of the rock on the Durham side, were Festuca vivipara and Polypodium Phegopteris in great luxuriance. We crossed the stream by its narrow bridge, into the county of Westmoreland, but dared not extend our ramble, in consequence of the threatening aspect of

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* In a letter to E. Newman.

newly accumulated clouds, so that I considered myself amply rewarded by finding Cnicus heterophyllus, Habenaria viridis and Gentiana campestris. Recrossing the bridge we pursued the course of the stream, which, almost immediately below the Snout, takes a sudden turn, and thus we found our track hemmed in by the over-laden Tees on our right hand, and the lofty basaltic rocks called Falcon Clints on our left. My eye was now anxiously directed to the face of these rocks, to discover, if possible, the chief object in taking our present course—Woodsia Ilvensis. Rain now began to fall heavily, and the wind, which had been all day very tempestuous, bore it against us so as to render observation, either of locality or objects, very imperfect. However, after tracing as near as I can judge about 400 yards, I espied some small specks of green through the broken fragments of a stream which poured over the Clints, and under which I soon stood, pulling hastily the patches I had seen, and these, to my delight, proved to be two small plants of the Woodsia, mixed with a few fronds of Asplenium viride and Cistopteris fragilis. The state of the weather, for by this time the rain had penetrated a Mackintosh cape, rendered all further search impracticable; we therefore retraced our path as quickly as possible to our starting-point, having picked up as we proceeded Sedum villosum, Lycopodium Selago and Selaginoides, Galium boreale and Solidago Virgaurea, all of which were growing in great profusion. On the following day I went in the opposite direction, into Baldersdale, to gather Saxifraga Hirculus; and here again I provided myself with a guide, a requisite in search of a plant which is confined in its growth to a very limited area. It grows on the surface of a very lofty and exposed hill to the south of the Balder, at the exact point of its junction with the Black beck. The storm of wind and rain was violent as yesterday, and I was once more completely "wetted to skin," even through another Mackintosh cape: but I do not complain; I found the plant in great plenty and luxuriance, growing among moss, and where I had to stand at least six inches deep in water whilst I gathered it. The storm again prevented further search, or any advance lower down the beck for the purpose of gathering Epilobium angustifolium, which grows there. Yet let it not be supposed that the wettings were not counterbalanced, when Woodsia Ilvensis and Saxifraga Hirculus were in the scale against them.—*Samuel Simpson; Lancaster*, *Aug*. 19, 1841.

37. *Avena alpina found in Yorkshire*. Whilst on a visit to a friend near Settle a fortnight since, Mr. J. Tatham took me to a hill above that town to gather Avena alpina, which had been discovered there for the first time a few weeks previously, by himself; and in the evening of the same day I discovered it in a hazel wood, a little northward of Stackhouse near Settle, in great abundance. I mention this, thinking it may be interesting to know that this almost exclusively Scottish plant has a habitat in Yorkshire. I believe it was not known to Mr. Baines as having been found in that county.—*Id. August* 25, 1841.

38. *Asplenium lanceolatum*. It affords me pleasure to be able to communicate what I am sure will be interesting to you, viz., a locality for the rare Asplenium lanceolatum, not mentioned in Mr. Newman's delightful little work on the ferns. Mr. J. W. Ewing, of Norwich, who resided here for some time a few years ago, discovered the plant growing on a bank at Stapleton, about three miles from Bristol, and pointed out the spot to me. Not paying much attention to the ferns at that time, the circumstance escaped from my memory, until reminded of it by a friend who was with us at the time. I have recently revisited the spot and again found the plant, but growing there very sparingly; however, by searching very diligently, day after day, the rocks in the

immediate neighbourhood, I discovered it in one or two other places, and in one of these abundantly, covering the dry surface of a rock completely sheltered from rain, and, though its roots are almost exposed and a slight pull detaches it from the rock, it grows in the greatest luxuriance, one frond which I gathered measuring eighteen inches in length. I have observed in all the fronds of this fern which I have gathered, that the rachis is throughout its entire length furnished with linear scales, a character which best distinguishes it in all its forms, and even in its very young state, from Asplenium Adiantum-nigrum. — *G. H. K. Thwaites; 2, Kingsdown Parade, Bristol, August* 31, 1841.

39. *Lilium Martagon.* In addition to your stations for Lilium Martagon, I may mention Ash, near Wrotham, Kent, where it grows plentifully in a very wild situation on an estate belonging to Mr. Gladdish.—*N. B. Ward; Wellclose Square, September* 1, 1841.

40. *Anagallis arvensis and cærulea.* I have this season been able to preserve two fine plants of Anagallis cærulea on the spot where those raised from your Reigate seeds stood some years ago; they are spreading on the ground with some stems more than two feet long. Anagallis arvensis has also been preserved close by, with stems nearly as long; both keep to their colours. I have often endeavoured to find some satisfactory specific distinction between these plants, but can discover none that would enable a person to distinguish them when not in flower. The cærulea is still the most robust plant, as formerly, and has larger leaves, with the veins more prominent on the back than in arvensis, the points of the shoots too are inclined to be somewhat erect, until borne down by their own weight as they advance in growth. The corollas are finely laciniated, as in the plants raised from the original seeds. Perhaps the stalked glands on the margin of the corolla of arvensis would be the best distinguishing character, if the plants are to be considered two species. The points of the shoots of arvensis have not the same tendency to ascend as those of cærulea. — *David Cameron; Botanic Garden, Birmingham, September* 3, 1831.

[The seeds of Anagallis cærulea from which Mr. Cameron's first plants were raised, we had the pleasure of collecting near Reigate, in July, 1836. They were immediately forwarded to Birmingham, and plants with the blue laciniated corolla have annually sprung up in the same spot ever since that time; nor, we believe, has A. arvensis once made its appearance among them, but has kept its own station close by. We may perhaps, at some future time, lay before our readers all the evidence we can collect at all bearing on the question of the specific identity or distinctness of the two plants: in the mean time we should be obliged by the communication of any facts relating to the point at issue. It should perhaps be mentioned that we have never heard of Anagallis cærulea being found wild near Birmingham.—*Ed.*]

41. *Ulex strictus, or Irish Furze.* Did I ever mention having saved seeds of the Ulex strictus, or Irish furze, in 1839, which were sown under glass in the spring of last year, and the seedlings transplanted out of doors in autumn? Of eight plants so obtained there is not the least deviation in the appearance from that of the parent; which, although no decided proof of the plant being a genuine species, would go far to make me conjecture that it is so.—*Id.; Sept.* 17, 1841.

[Ulex strictus, Mackay, 'Cat. Irish Plants,' p. 67. is recorded in the 4th edition of Hooker's 'British Flora,' as U. Europæus, var. β. *minor.* It is extremely different in appearance from U. Europæus, and we cannot help thinking them specifically distinct. The Ulices do not appear to be well understood.—*Ed.*]

42. *Enquiry relating to the Plates of Leighton's 'Flora of Shropshire.'* I beg to enquire, through the medium of 'The Phytologist,' which of the nineteen plates in Leighton's Flora has either figures or sections of the fruit or appendages of any of the six following species of Carex described in the 4th vol. of Smith's 'English Flora,' &c. &c.; viz., C. angustifolia, Mielichoferi, speirostachya, stictocarpa, tenella and ustulata?—*Saml. Gibson; Hebden Bridge, September* 7, 1841.

[Our correspondent will find figures and a section of the fruit of Carex ustulata, on the right hand side of plate 16, p. 461, of the Shropshire Flora; the other five Carices enquired after, and which are described as species in the 'English Flora,' are not now considered to be entitled to that rank. We are decided enemies to the multiplication of species on insufficient grounds; and have long been of opinion that at least the Carex stictocarpa and angustifolia of 'English Flora,' possessed but weak claims to the rank assigned to them by the author. Sir W. J. Hooker was unacquainted with both when the earlier editions of his 'British Flora' appeared; and in the 4th edition of that work stictocarpa appears as a synonyme of Hudson's C. recurva, and angustifolia bears the same relation to C. cæspitosa, Linn. Of the plant described in 'English Flora' as the Carex tenella of Schkuhr, Sir W. Hooker asks in the earlier editions of his Flora, "May it not be a starved state of the following?" (C. remota); he subsequently appears to have had reason for believing this conjecture to be well founded, for in the 4th edition of that work, we find C. tenella sunk into a synonyme of C. remota, Linn. A like fate has befallen the two remaining Carices, respecting whose whereabouts our correspondent enquires. The facts of the histories of the plants described in 'English Flora' as the Carex Mielichoferi of Willdenow and C. speirostachya, Swartz, seem to have been somehow or other confounded in such a manner that it would now perhaps be difficult to unravel the mystery; suffice it to say that in the last edition of the 'British Flora,' the latter has been referred to C. fulva, Good., as a variety, and the name of the former appears as a synonyme of C. phæostachya, Sm. And even of C. phæostachya itself Sir W. Hooker remarks, "In deference to the opinion of Mr. Borrer, I rank this as a species; but it is probably only a variety of C. panicea, with less glaucous (greener) herbage and a bifid beak to the fruit. The above synonymes are referred hither at the suggestion of Dr. Boott." This gentleman has for several years past made the Carices his particular study; and Sir W. J. Hooker expresses his acknowledgments to him "for many valuable remarks and improvements both in the arrangement and definition" of the Carices, for the fourth edition of the 'British Flora.'

While on a subject connected with Mr. Leighton's 'Flora of Shropshire,' we embrace the opportunity of laying before our readers the following complete list of species and varieties new to the British Flora, described in that work. The list may be regarded as a supplement to the 'Catalogue of British Plants' printed for the Botanical Society of Edinburgh.—*Ed.*]

Viola imberbis, *Leight.*
Chenopodium intermedium, *Mert. & Koch.*
Cuscuta Epilinum, *Weihe?*
Dianthus plumarius, *Linn.*
Oxalis Acetosella, *Linn.* β. purpurea.
Spergula vulgaris, *Bönningh.*
Reseda alba, *Linn.*
Cerasus austera, *Leight.*
Pyrus Malus, *Linn.*
    α. sylvestris, *Leight.*
    β. sativa, *Leight.*
Rubus affinis, *W. & N.*
    β. *W. & N.*
    γ. *W. & N.*

Rubus rhamnifolius, *W. & N.*
a. rhamnifolius, *W. & N. Lind. & Bor.*
β. rhamnifolius, *W. & N. and Lindl.*
(*corylifolius*, Sm.) *Borr.*
Rubus discolor, *W. & N.*
—— vulgaris, *W. & N.*
—— villicaulis, *Koëhl.*
—— Leightoni, *Lees' MS.*
—— echinatus, *Lindl.*
—— Schleicheri, *W. & N.*
—— dumetorum, *W. & N.*
Ranunculus fluitans, *Lam.*
—— acris, *Linn. β.* minor, *Leight.*
—— aquatilis, *Linn.*
γ. tripartitus, *Leight.*
Ballota ruderalis, *Fries.*
(*B. nigra*, Linn. Fl. Suec.)
—— fœtida, *Lam.*
(*B. nigra*, Linn. Sp. Pl.)
β. alba.
(*B. alba*, Linn. Sp. Pl.)
Galeopsis Ladanum, *Lin. β. Sm. Eng. Fl.*
Stachys palustris, *Linn.*
β. intermedia, *Leight.*
Cardamine sylvatica, *Link.*
Sinapis arvensis, *Linn.*
a. vera, *Bab.*
β. retro-hirsuta, *Bab.*
Malva vulgaris, *Trag.*
(*M. rotundifolia*, Auct. non Linn.)
Fumaria, n. sp.?
Trifolium striatum, *Linn.*
β. erectum, *Leight.*
Lotus major, *Scop.*
a. vulgaris, *Bab.*
β. glabriusculus, *Bab.*
Hypericum tetrapterum, *Fries.*
—— maculatum, *Crantz.*
(*H. delphinense*, Vill. et Reich.)
Tragopogon minor, *Fries.*
Hypochœris glabra, *Linn.*
a. vera, *Bab.*
β. Balbisii, *Bab.*
Hieracium boreale, *Fries.*
Senecio erucæfolius, *Huds.*
—— erraticus, *Bertol.*
Orchis majalis, *Reich.*
Epipactis viridiflora, *Reich.*
Callitriche pedunculata, *DC.*
a. vera, *Bab.*
β. sessilis, *Bab.*
—— platycarpa, *Knz.*
Carex flava, *Linn. β.* polystachya, *Koch.*
—— hirta, *Linn. β. Sm. Eng. Fl.*
Littorella lacustris, *Linn.*
β. hirsutus, *Leight.*
Myriophyllum alterniflorum, *DC.*
Quercus intermedia, *Don.*
Betula alba, *Linn.*
β. pendula, *Sm.*
γ. salax, *Leight.*
δ. pubescens, *Leight.*
Taxus baccata, *Linn.*
β. Dovastoniana, *Leight.*
Atriplex deltoidea, *Bab.*

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43. *Yellow-flowered Variety of Gentiana Amarella.* A few weeks back I found on Betchworth Hill, near the noted clump of trees, a yellow-flowering gentian, apparently a variety of Gentiana Amarella. I found two or three specimens nearly in the same place about four years since.—*Jno. R. Henness; Betchworth, Surrey, Sept.* 12, 1841.

[We possess a specimen of Gentiana Amarella with yellow flowers found last year on Betchworth Hill; it is a very pretty variety.—*Ed.*]

44. *Plants at Nottingham.* If the following short notice of plants found in the vicinity of Nottingham, in August, 1841, is likely to be interesting to any of the readers of the 'Phytologist,' it is quite at your service.—*Joseph Sidebotham; 26, York Street, Manchester, September* 14, 1841.

Hippuris vulgaris.
Crocus nudiflorus. Nottingham meadows.
Brachypodium pinnatum.
Gentiana Amarella.
Fœniculum vulgare.
Parnassia palustris.
Silene nutans. Common on rocks. Since the burning of Nottingham Castle, this plant has completely overspread the ruins.

Clematis Vitalba.
Cheiranthus fruticulosus. Nottingham Castle-rock.
Geranium pratense. Meadows near the Trent.
Lathyrus sylvestris.
Vicia sylvatica. Oxton Forest, in the greatest profusion.
Ervum tetraspermum.
Ornithopus perpusillus.
Trifolium fragiferum. Banks of the Trent near Wilford Ferry.
Medicago maculata.
Hypericum montanum.
Gnaphalium rectum, uliginosum, minimum and Germanicum.
Erigeron acre. Mapperly Hills.
Sagittaria sagittifolia.
Bryonia dioica.
Grammitis Ceterach.
Aspidium Thelypteris.
———— cristatum. Oxton bogs, very local
———— spinulosum.
Asplenium Trichomanes & Ruta-muraria.
———— Adiantum-nigrum. Common on rocks in Nottingham Park.

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45. *Drosera rotundifolia*, *β. ramosa*, (Phyt. p. 23). This pretty variety grows in great plenty, together with the usual state of the plant, on Carrington Moss, Cheshire, seven miles south of Manchester. The same individual often bears simple and compound racemes, as mentioned by Mr. Leighton. There does not appear to be any difference sufficient to form a specific distinction. All three species of Drosera grow within seven miles of Manchester; D. longifolia being found on Baguley Moor, and D. Anglica abundantly in various localities.—*Leopold H. Grindon; 4, Portland Street, Manchester, September* 15, 1841.

46. *Orobanche barbata*, (p. 29). This species is found upon St. Vincent's Rocks, near Bristol, where I had opportunities for examining it several years in succession. It grows chiefly upon the ledge under the suspension bridge, and is always parasitic upon ivy. The O. minor, which I consider perfectly distinct, I have gathered in clover fields, between Clevedon and Walton, Somersetshire, twelve miles S.W. of Bristol. It also springs up occasionally on a steep grassy bank overhanging the sea, growing intermixed with Anthyllis vulneraria, Chlora perfoliata, Orchis pyramidalis, &c., and exposed to the spray of every tide.—*Id.*

47. *Tilia*, (p. 44). I think it is in the 'Mag. Nat. Hist.' that there are some remarks by Mr. Edwin Lees on the legitimate claim of the lime-tree to be considered British. Worcestershire and Herefordshire are the counties named as those wherein it is found most truly wild. I can add Leigh Woods, Somersetshire, to the list of localities. On the craggy precipitous sides of Nightingale Valley are several fine specimens, with every circumstance in their favour as being of spontaneous growth. I should like to see an article in 'The Phytologist' on the right of this tree to be reckoned an "anchent Briton."—*Id.*

48. *Lycopodium.* Anything in reference to this genus will be interesting, I presume. Four of the six species grow near Manchester, but neither of them in any quantity. On a wild desolate moor called Fo-edge, about fifteen miles north, L. clavatum, Selago and alpinum are found within a few yards of each other, together with a vast profusion of Allosorus crispus, which flourishes there in extraordinary beauty. L. inundatum is plentiful on Baguley Moor, a spot of much celebrity among Manchester botanists. In addition to the three Droseras, the following plants are produced there:—

Veronica scutellata
Eleocharis cæspitosa
Eleogiton fluitans
Eriophorum angustifolium
Radiola Millegrana
Anagallis tenella

Rhamnus Frangula
Menyanthes trifoliata
Gentiana Pneumonanthe
Sium inundatum
Erica Tetralix
Alisma ranunculoides
Spergula nodosa
Aquilegia vulgaris
Polygala vulgaris, *alba*
Myriophyllum spicatum
Littorella lacustris
Osmunda regalis
Chara translucens
—— flexilis.—*Id.*

49. *Spurless Variety of Dog Violet.* We have lately received specimens of a form of Viola canina, in which the flowers are said to be always destitute of a spur; thus assuming a regular figure. It has been found abundantly in Bedfordshire, by Mrs. Gye, a correspondent of Dr. Daubeny. Thus, in the violets, we have on the one hand this return to a regular type, and on the other, a complete state of irregularity in those instances, observed in V. rothomagensis, hirta, and others, in which the petals have each a spur. This lady's violet is at this season of the year apetalous—a frequent occurrence in V. mirabilis, montana, and many others; including the common sweet violet.—*Gardeners' Chronicle, September* 11, 1841.

50. *Neglected Garden in Jamaica.* At Cold-spring estate (4378 feet above the sea), once the seat of the Wallens family spoken of by Bryan Edwards, we found the remains of a garden, in which European and tropical vegetation were strangely blended together, and where the plants and trees of both worlds seemed equally to luxuriate. The fences leading to it were garnished with the white rose and the (Rosa) multiflora; strawberry plants in fruit and flower carpeted the ground: the Guernsey lily, the Agapanthus, the beautiful Begonia and the columbine, were the wild flowers of the region. Here we saw the English oak and Spanish chestnut spreading their noble branches, and almost under their shade the tea-plant and coffee-tree were in full flower. On one side of the garden was a Magnolia tree, of two trunks rising from a single stem, each trunk about 14 inches in diameter, and a little farther on, on the mountain slopes, large copses of the English furze and broom, rich with yellow, affording a retreat for the quail and partridge. Our horses browzed on strawberry-leaves as on common grass: the fruit is small but refreshing, and sells for 1s. a quart in Kingston market. Near this strange spot the apple-tree was in bearing, and we saw artichokes, carrots, cabbages, green peas and parsneps. St. Catherine's top was 600 feet above us, encircled by mountain mist, and the clouds were rolling in dense masses below us: it was a strange and wonderful scene, and we hardly knew how to admire it enough.—*John Candler's Journal; Part* 2, *Jamaica.*

51. *Meyen's Pflanzengeographie.* Mr. Al. Irvine has been for some years engaged in the translation of Meyen's work on the Geography of Plants. In a future number we hope to lay before our readers some extracts from our respected correspondent's translation.—*Ed.*

ART. XXX.—*Proceedings of Societies.*

BOTANICAL SOCIETY OF LONDON.

September 3.—John Edward Gray, Esq., F.R.S., president, in the chair. The following donations were announced:—Numerous specimens of *Aspidium cristatum*, from the Rev. George Munford, collected by him at Bawsey Heath, near Lynn, Norfolk. Specimens of Australian woods, from Dr. John Lhotsky. British plants, from the Rev. Andrew Bloxam, Mr. S. Warner, Mr. S. P. Woodward, and Miss Anne Worsley. 138 species of British mosses, from the secretary, collected by Mr. W. Gardener, Jun., of Dundee. Books, from the secretary, Mr. Woodward, and Mr. W. G. Perry. Lieut. James Tilley, R.N. presented specimens of the elm leaf from their opening in April to their attainment of summer perfection, and thence through their falling changes to the end of decay. Mr. John Reynolds, treasurer, communicated a paper "On the Development of various parts in Plants," translated from a paper by Professor Meyen.—*G. E. D.*